

Californians' Attitudes Towards and Knowledge About Cardiovascular Diseases

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Table of Contents

	Page
The Burden of Heart Disease & Stroke in California	3
Objectives of the Survey	3
Major Findings	4
What do the Survey Results Mean?	5
Methodology	5
Results/Significance	6-20
Most Important Health Problem Facing Californians	
Percentage Distribution of Leading Cause of Death	
Concern for Someone Close to Respondent Developing a Particular Health Problem	
Concern for Respondent Developing a Particular Health Problem	
Perceived Effectiveness of Risk Reduction	
References	21
Suggested Readings	21
Appendix	22
Survey Instrument	



Tables/Figures

Tables

Page

1. Sample Characteristics 6
2. Most Important Health Problem Facing Respondent or
Their Close Family/Friends 12

Figures

1. Most Important Health Problem Facing Californians Today as Cited by Respondents 7
2. Percent Distribution of Leading Causes of Death Cited by Respondents 8
3. Percentage of Respondents Who Listed Condition as
Leading Cause of Death, by Race/Ethnicity 9
4. Percentage of Respondents Who Listed Condition as
Leading Cause of Death, by Education Level 10
5. Percentage of Respondents Who Listed Condition as
Leading Cause of Death, by Age 11
6. Concern for Someone Close to Respondent
Developing a Particular Health Problem, by Race/Ethnicity. 14
7. Concern for Someone Close to Respondent
Developing a Particular Health Problem, by Education Level. 15
8. Concern for Someone Close to Respondent
Developing a Particular Health Problem, by Age 16
9. Concern for Respondent Developing a Particular Health Problem, by Race/Ethnicity 17
10. Concern for Respondent Developing a Particular Health Problem, by Education Level 18
11. Concern for Respondent Developing a Particular Health Problem, by Age 19
12. Perceived Effectiveness of Risk Reduction 20

The Burden of Heart Disease & Stroke in California

Cardiovascular disease (CVD), including heart disease and stroke, is the leading cause of death in California, killing an estimated 85,000 persons annually.¹ Unfortunately, CVD is often accepted as a natural process of aging. However, CVD is not just a disease of the aged; an estimated 45 percent of all heart attacks occur in people younger than 65 years.² Furthermore, medical care and lost productivity due to CVD cost the state an estimated \$14 billion annually.³

As part of its mission to reduce CVD in the state, the CORE program is committed to educating Californians about the burden of CVD and developing strategies for prevention. This is why the CORE program conducted a survey to assess Californians' knowledge of and attitudes about CVD and its associated risk factors. The results of the survey will be used by the CORE program and the California Cardiovascular Disease Prevention Coalition to develop CVD prevention programs and policies.

Objectives of the Survey

The specific objectives of the survey were to:

1. Identify Californians' priority health conditions and diseases.
2. Assess Californians' knowledge of the leading causes of death in the state.
3. Investigate the level of respondent's concerns about themselves or a close friend or family member developing heart disease, stroke, or high blood pressure.
4. Determine Californians' confidence in the effectiveness of CVD risk reduction measures.

Major Findings

- ♥ Only 23% of Californians know that heart disease is the leading cause of death. While stroke is the third leading cause of death, less than 1% of respondents identified it as such.
- ♥ Heart disease ranked a distant fourth and stroke an even more distant seventh when Californians listed their priority health conditions and diseases. When asked their opinion of “the most important health problems facing the state,” more than 20 times as many people listed AIDS and cancer compared to those who listed heart disease and stroke (72% vs. 3.5%). These findings are similar to a nationwide survey conducted by the American Cancer Society in August 1991.
- ♥ Although Californians cited AIDS and cancer as the most important health problems facing California, heart disease and cancer were listed most often as the most important problems facing respondents *personally*.
- ♥ Californians are much more concerned about their close friends and family developing heart disease or high blood pressure than they are for themselves. Greater concern for close friends and family was common across all race/ethnicity groups, ages, and education levels.
- ♥ Californians have very high confidence in CVD risk reduction measures such as reducing fat in the diet, regular exercise, and quitting smoking. Respondents rated these measures an average of 8 on a scale of 1-10 for their effectiveness.

What do the Survey Results Mean?

The results of the *California Cardiovascular Disease Awareness Survey* suggest several directions for the prevention of CVD.

Californians' apparent lack of knowledge about the high rates of death from CVD may account for the low priority it receives in the public concern about health problems facing Californians. If Californians knew the consequences of CVD, in terms of disability, deaths, and economic costs, they may rank heart disease and stroke as a higher priority for the state.

Heart disease, however, becomes a priority for Californians when it is considered as a personal problem. In particular, concern about close friends and family members brings the problem of CVD into sharp relief along with concerns about cancer. Framing CVD in this manner may be used effectively in educational messages, where individuals are encouraged to adopt a new behavior or support a policy change to protect the health of their family and friends.

High levels of confidence in CVD risk reduction strategies are not indicative of Californians' use of the strategies to reduce their CVD risk. California Department of Health Services data show that many Californians do not engage in heart healthy behaviors. For instance, about 20% smoke cigarettes, 21% have high blood pressure, 51% do not exercise regularly, 25% are overweight, and 9% have diabetes.^{4,5}

The survey results suggest that Californians already are well aware of the ways in which they can reduce their risk of heart disease. However, while more education may be necessary, education alone is not sufficient. What is needed are programs and policies to help them adopt heart healthy habits.

Methodology

The survey was designed by the CORE program and the California Cardiovascular Disease Prevention Coalition. It was conducted by the Field Institute, Inc. of San Francisco, California. A random sample of 1404 California adults was selected and interviewed in October 1994. Only individuals aged 18 or older were interviewed, and interviews were conducted in English or Spanish.

The sampling was conducted using random digit dialing methods with computer-assisted telephone interviewing by the Field Institute for eleven regions, four age groups, and the two gender groups.

A simple test for homogeneity using the chi-square or the likelihood ratio statistic was used to analyze the questions concerning which health condition or disease is most important and what is the leading cause of death. If the variables were significant, they were compared with Cramer's V statistic.

For the questions assessing the concern of a health problem or disease, scores were analyzed using analysis of variance to decide which factors were significantly affected by several socioeconomic variables. In order to determine if there were differences in the scores for each health problem, a multivariate analysis was performed. This same method was used to analyze the question about the effectiveness of a behavior in reducing heart disease.

Results/Significance

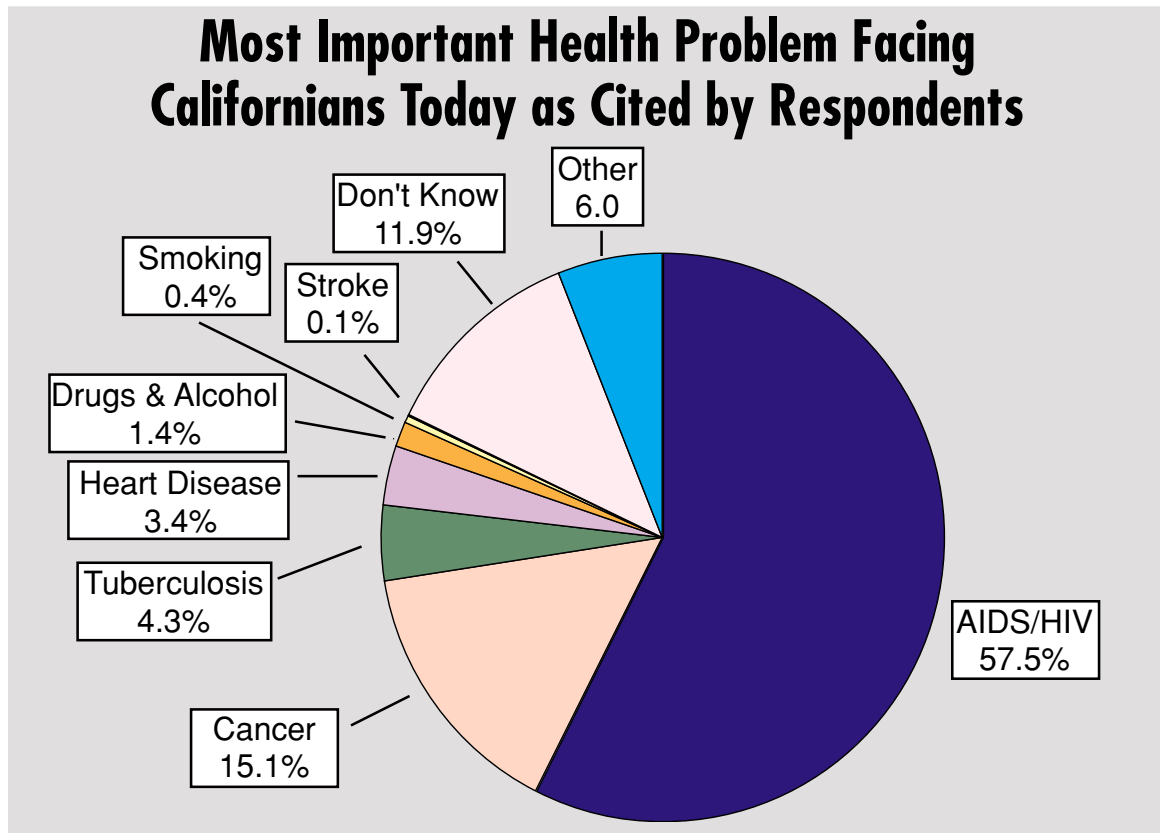
TABLE 1 SAMPLE CHARACTERISTICS (n= 1404)		
Characteristics	n	(%)
Gender Male Female	725 679	52 48
Race/Ethnicity White Black Latino Other	855 77 335 131	61 6 24 9
Age (years) 18-24 25-29 30-39 40-49 50-59 60+	166 146 336 284 182 290	12 10 24 20 13 21
Education High School Graduate or Less Some College College Graduate	468 514 420	33 37 30
Household Income Under \$20,000 \$20,000-\$39,999 \$40,000-\$59,999 \$60,000-\$79,999 \$80,000 or more	325 408 284 126 172	25 31 22 9 13
Marital Status Married/Living Together Divorced/Separated Widowed Single Never Married	809 216 79 294	58 15 6 21

- ♥ The majority of sample members were white (61%), followed by Hispanics (24%), other races (9%), and blacks (5%). The demographics of the sample closely resemble the demographics of the 1990 California Census population.
- ♥ The average age of sample members was 42 years. Twenty-two percent (22%) were under the age of 30 and 21% over 60 years of age.
- ♥ Over two-thirds of respondents had some college education. In contrast, one-third reported having graduated from high school or had less education.
- ♥ Over half (52%) of respondents had an annual household income of less than \$39,999.

Question 1:

"Thinking for a moment about the various types of diseases and health conditions facing Californians today, which one disease or health condition do you feel is the most important?" (Figure 1)

Figure 1



- ♥ Respondents reported the most important health problems facing California to be AIDS (57%) and cancer (15%). This is a consistent finding among all race/ethnicity, gender, age, and education groups.
- ♥ Tuberculosis (4%) was cited more frequently as a serious health problem facing Californians than heart disease and stroke combined (3%). This was a consistent finding among all age groups.
- ♥ The trend for citing heart disease as the most important health problem increased with age, while AIDS decreased with age.

Significance

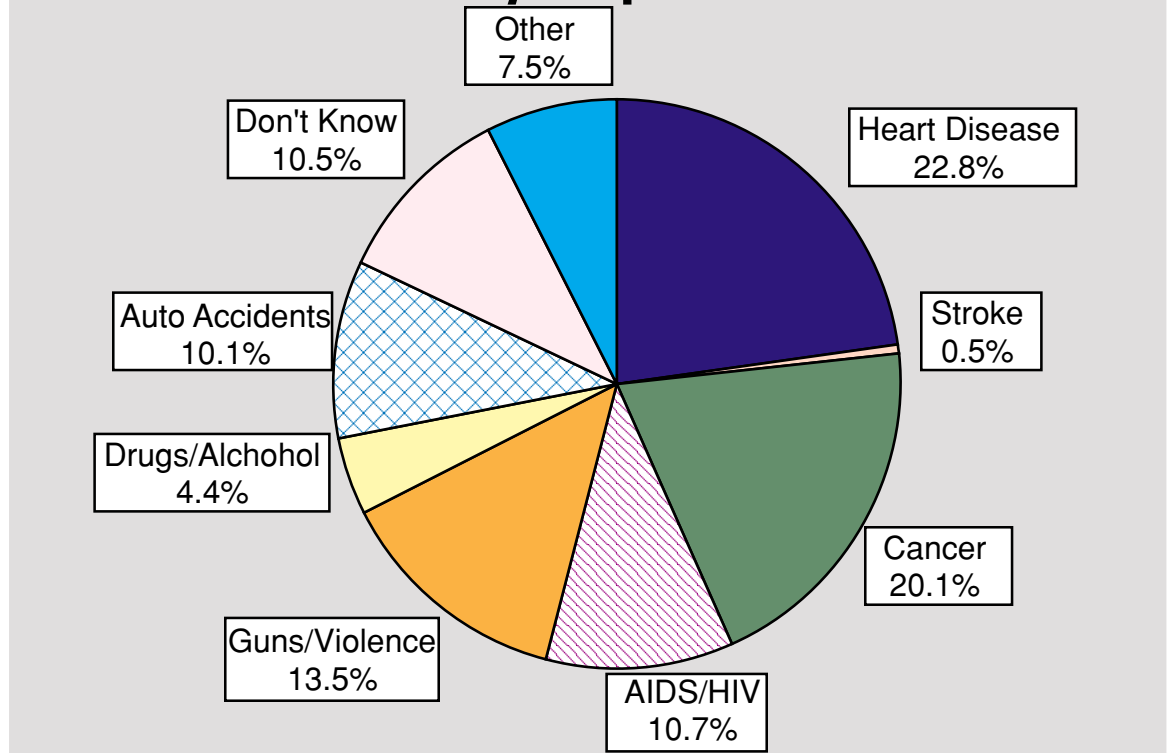
- ♥ The low ranking of heart disease indicates a lack of knowledge among the public regarding the amount of disability and death, as well as the high costs, of the disease in this state.
- ♥ The extremely low ranking of stroke indicates this disease, despite its disabling consequences and being the third leading cause of death, is virtually invisible to the public.

Question 2:

"What do you think is the leading cause of death in California?" (Figures 2-5)

Figure 2

Percentage Distribution of Leading Causes of Death as Cited by Respondents

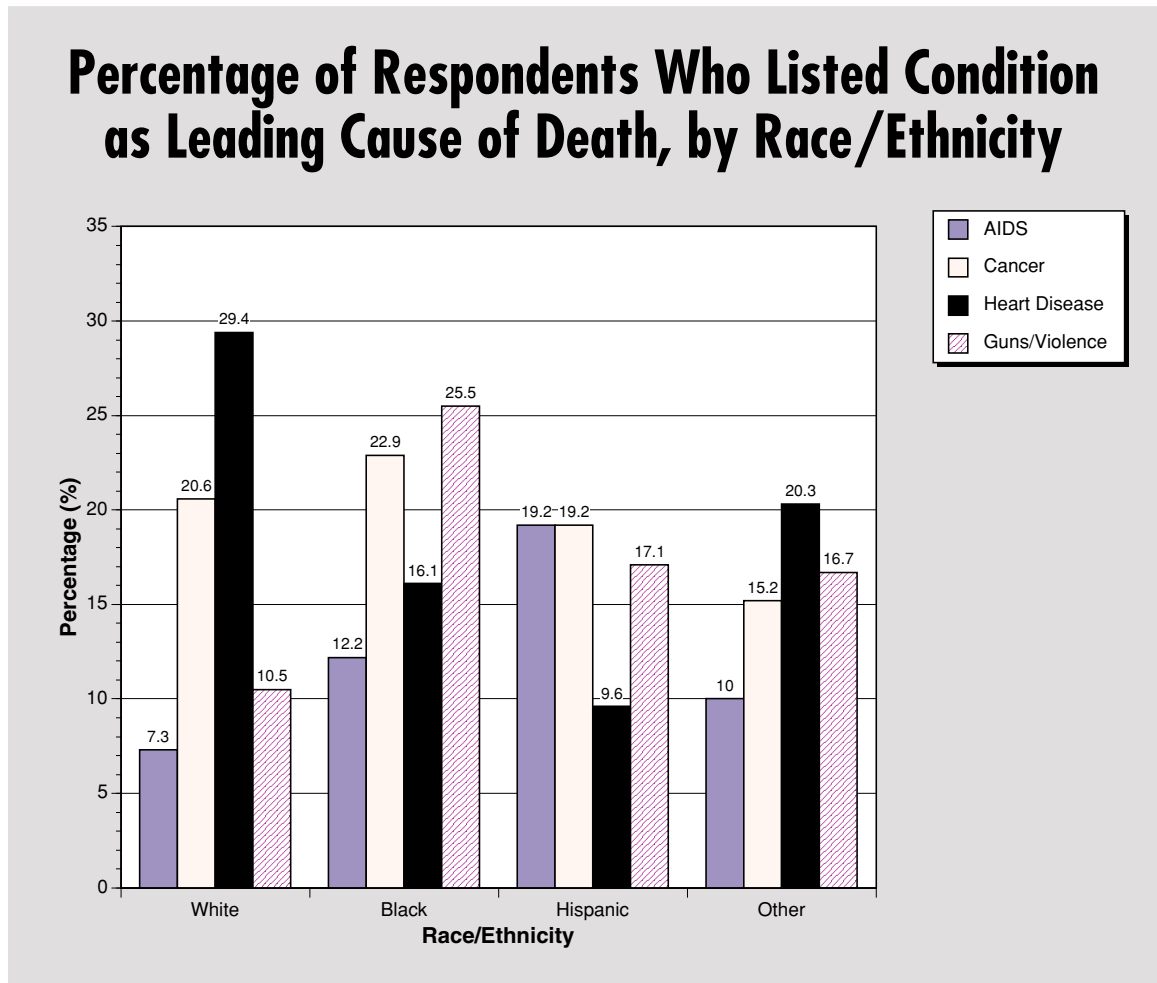


- ♥ Less than one-fourth of respondents (23%) cited correctly the leading cause of death - heart disease.
- ♥ Stroke, the third leading cause of death in actuality, was cited by less than 1% of respondents.
- ♥ Cancer was cited as the second leading cause of death (20%), followed by guns and violence (14%).
- ♥ AIDS/HIV was cited by only 11% of respondents as the leading cause of death, even though it was overwhelmingly cited as the leading health problem facing Californians (Figure 1).
- ♥ There were no gender differences among the leading causes of death cited.

Significance

- ♥ Lack of knowledge about the leading cause of death may give Californians a false sense of security about their true risk of heart disease.

Figure 3

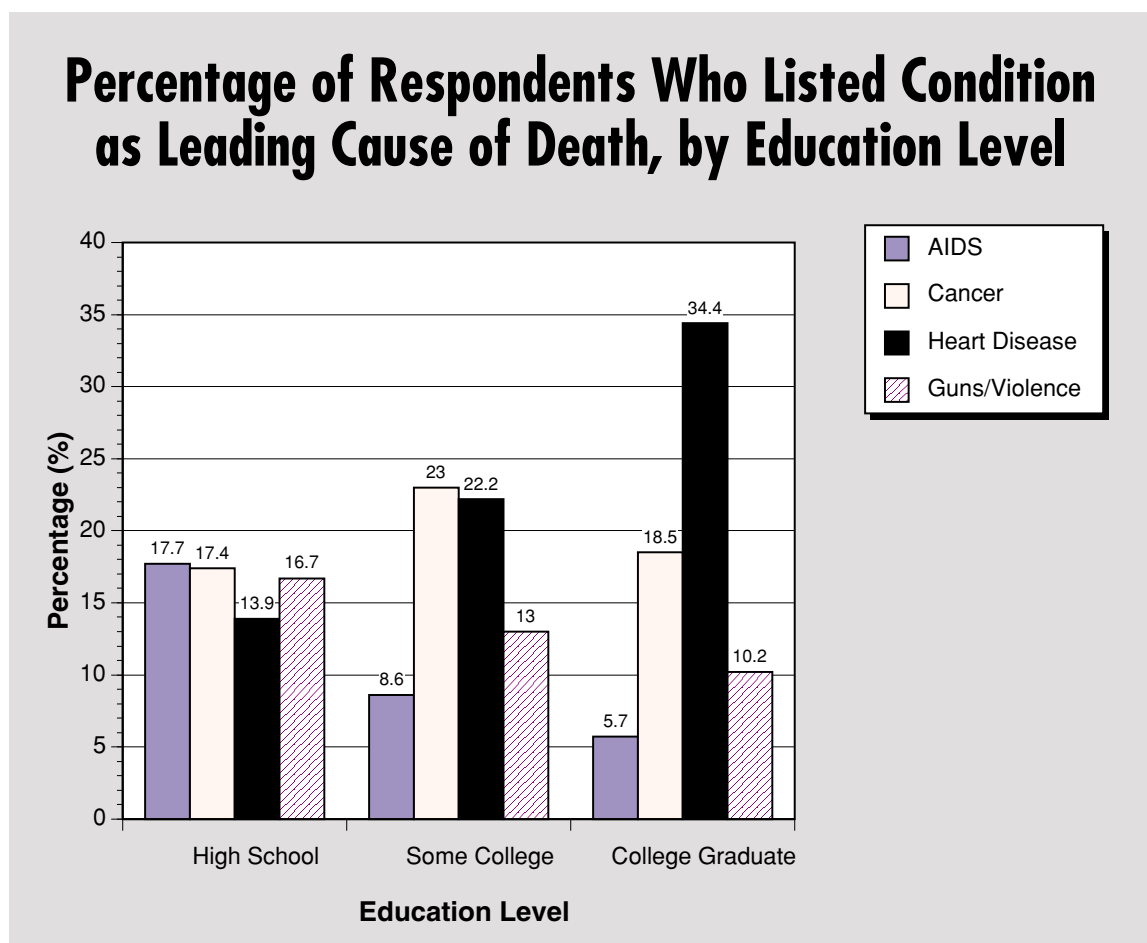


- ♥ There were significant differences among race/ethnicity groups in citing the leading cause of death. Whites (30%) and “others” (20%) cited heart disease as the leading cause of death, while blacks cited guns and violence (26%), and Hispanics cited AIDS (20%).
- ♥ Heart disease was cited as the leading cause of death least often by Hispanics (10%).

Significance

- ♥ Heart disease is the leading cause of death among all race/ethnicity groups in California, yet not all groups are aware of this.
- ♥ Blacks face high death rates from heart disease, yet this group identified guns and violence and cancer more frequently as the leading cause of death.

Figure 4

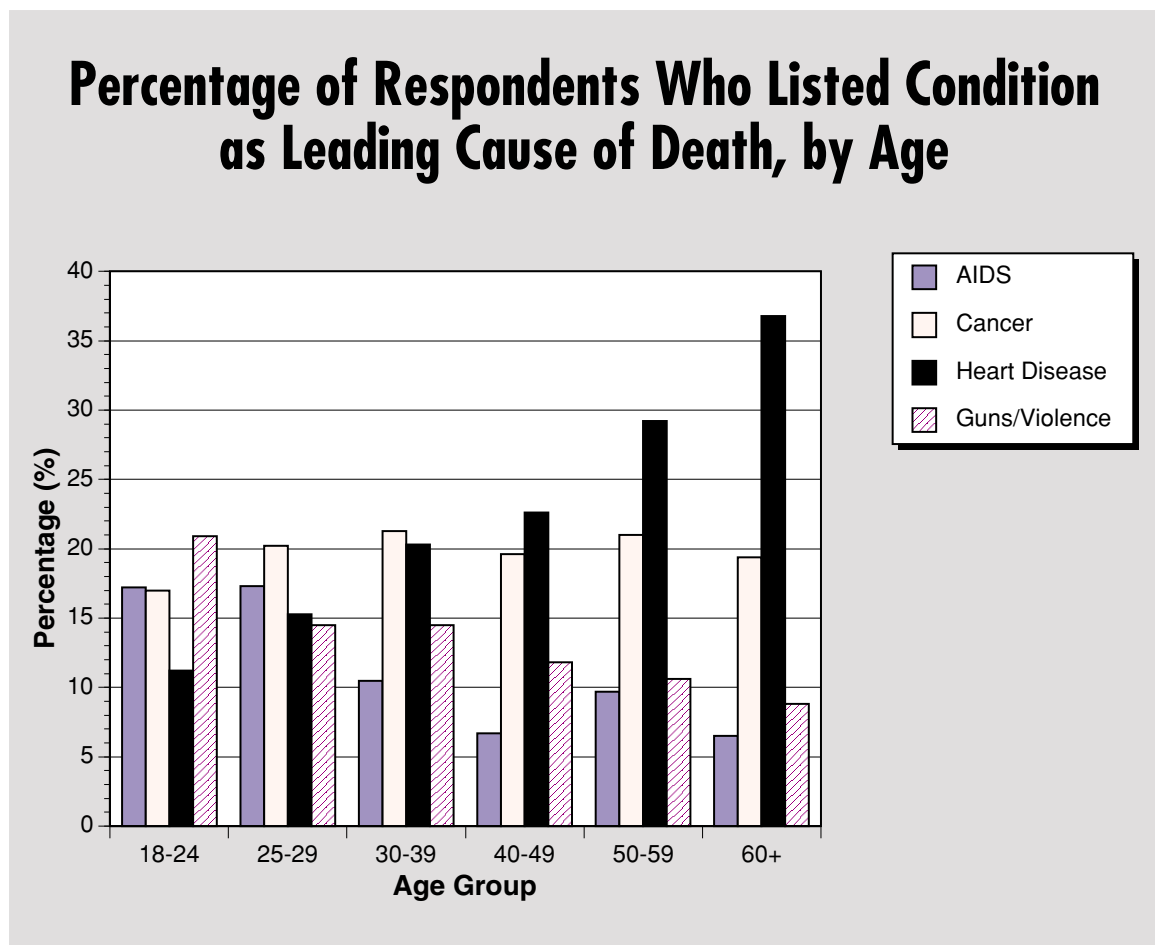


- ♥ There were significant differences among education groups in identifying the leading cause of death. Only college graduates, compared to the other education groups, cited heart disease the majority of the time (34%).
- ♥ Cancer (23%) was cited most frequently as the leading cause of death among those with some college, followed by heart disease (22%) and guns and violence (13%).
- ♥ Those who were high school graduates or with less education, cited heart disease (14%) less frequently compared to AIDS (18%) and cancer (17%).

Significance

- ♥ National studies indicate that those with less education face greater risk of premature death from CVD; accordingly, the least educated respondents in this survey are also the least aware of the problem of heart disease and stroke.

Figure 5



- ♥ There were significant differences among age groups in citing the leading cause of death. In general, the older the respondent, the more likely they were to cite heart disease.
- ♥ Until age group 40-49 years, respondents were more likely to cite cancer and guns and violence as the leading cause of death.
- ♥ Respondents in the 50-59 year and 60+ year groups cited heart disease 27% and 37%, respectively. Those 18-24 years cited heart disease about 11% of the time.

Significance

- ♥ Unaware that heart disease is the leading cause of death, young adults may be less amenable to education programs to reduce their risk of heart disease.

Questions 3 & 4:

“Now, I am going to read various types of health problems and diseases. For each please tell me how worried you are that someone close to you other than yourself might some day have this health problem or disease, using a scale of one to ten. The more worried you are, the higher the number you would give.” (Figures 6-8)

“Now, let’s talk about your own health concerns. Using the same one to ten scale, please tell me how worried you are that you yourself will some day have this health problem or disease.” (Figures 9-11)

TABLE 2		
MOST IMPORTANT HEALTH PROBLEM FACING RESPONDENT OR THEIR CLOSE FAMILY/FRIENDS (n= 1404)		
Health Problem	Facing Respondents Personally (%)^{1,3}	Facing Respondents' Close Family/Friends (%)^{1,2}
Cancer	33	54
Heart Disease	28	46
High Blood Pressure	23	45
Diabetes	14	28
AIDS	10	26
Drug/Alcohol Abuse	8	29

¹ Percentage of respondents who gave a score of 8 or more on a scale of 1 to 10.

² Differences among all health problems, except heart disease and high blood pressure, significant with an overall $\alpha=0.05$.

³ Differences among all health problems significant with an overall $\alpha=0.05$.

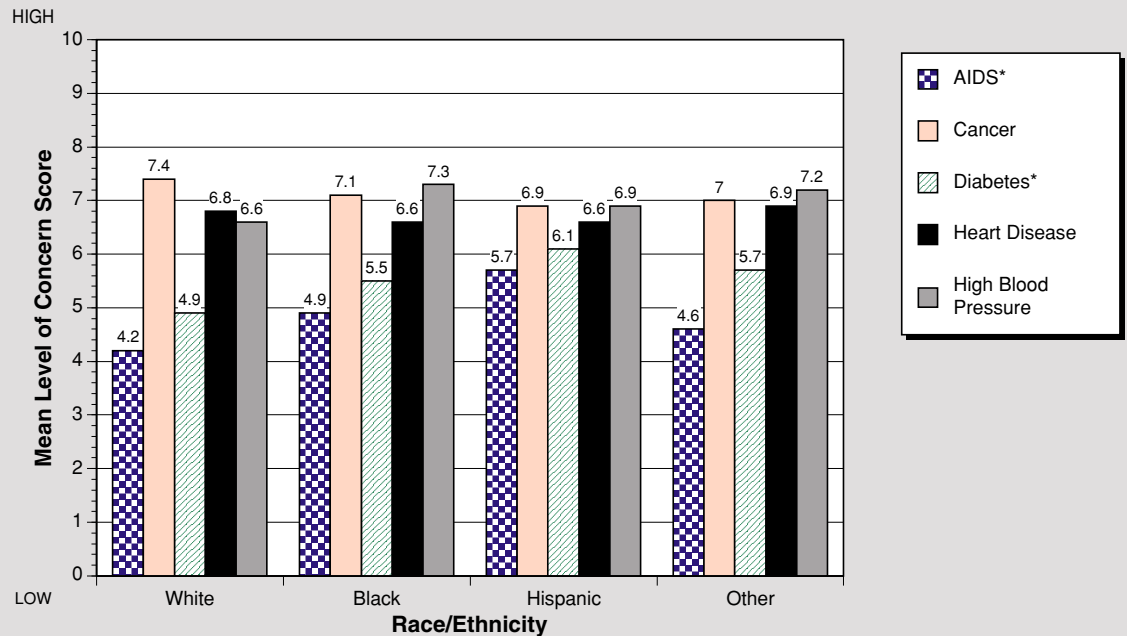
- ♥ Respondents were most concerned about someone close to them having cancer (54%), followed by heart disease (46%), and high blood pressure (45%).
- ♥ There were no significant differences between genders for level of concern by respondents for their close family or friends developing any of the health problems listed. However, there were significant differences between race/ethnicity groups, education levels, and age groups (see Figures 6-8).
- ♥ Cancer (33%) is the disease respondents were most concerned about for themselves personally, followed by heart disease (28%), and high blood pressure (23%).
- ♥ AIDS (10%) and drug and alcohol abuse (8%) were the lowest ranked health problems facing respondents personally.
- ♥ There were no significant differences between genders for level of concern by respondents for getting any of the health problems. However, there were significant differences between race/ethnicity groups, education levels, and age groups (see Figures 9-11).
- ♥ In general, respondents were considerably more concerned about their close family or friends having any of the health problems listed than they were for themselves.

Significance

- ♥ Greater levels of concern for family and friends suggests that educational programs and policies may be most effective when they help individuals protect the health of loved ones.
- ♥ When considered as a personal problem facing the respondent and his or her loved ones, heart disease ranked higher than when considered as a problem “facing Californians.”

Figure 6

Concern for Someone Close to Respondent Developing a Particular Health Problem, by Race/Ethnicity



* Significant differences among race/ethnicity groups for health problem, $p < 0.0001$.

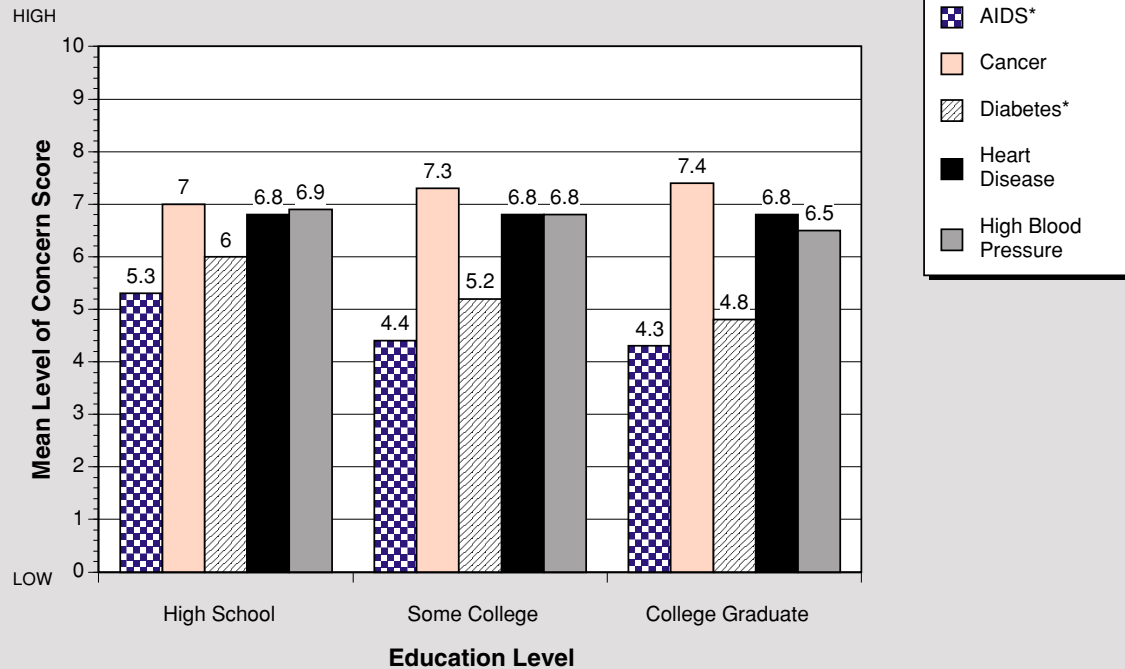
- ♥ Interestingly, when examined by race/ethnicity, all groups were most concerned about their loved ones having cancer, heart disease, or high blood pressure.
- ♥ There were significant differences among race/ethnicity groups for level of concern for AIDS. On average, AIDS had the lowest level of concern score for all race/ethnicity groups. Hispanics had the highest mean level of concern for AIDS (6.0), while whites had the lowest (4.0).
- ♥ There were significant differences among race/ethnicity groups for diabetes, with blacks, Hispanics, and “others” reporting greater concern for the disease compared to whites.

Significance

- ♥ Californians appear concerned about their close friends and family developing heart disease and high blood pressure compared to the other conditions listed, except cancer. Greater concern for others was common across all race/ethnicity groups.

Figure 7

Concern for Someone Close to Respondent Developing a Particular Health Problem, by Education Level



* Significant differences among education levels for health problem, $p < 0.0001$.

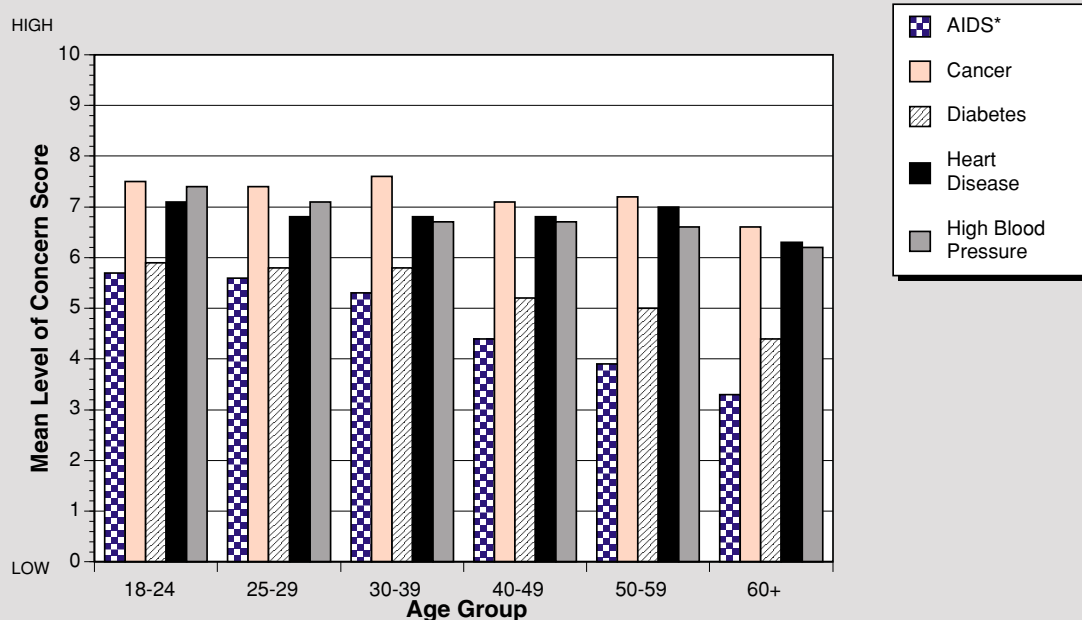
- ♥ On average, respondents in each education group cited most concern for heart disease, high blood pressure, and cancer.
- ♥ On average, there were significant differences among education levels for concern regarding AIDS and diabetes, but not for heart disease. As education level increased, the concern for both AIDS and diabetes decreased.

Significance

- ♥ All education groups were very concerned about their loved ones developing heart disease and high blood pressure. This indicates educational programs and policies directed to friends and family among all education levels may have a receptive audience.

Figure 8

Concern for Someone Close to Respondent Developing a Particular Health Problem, by Age



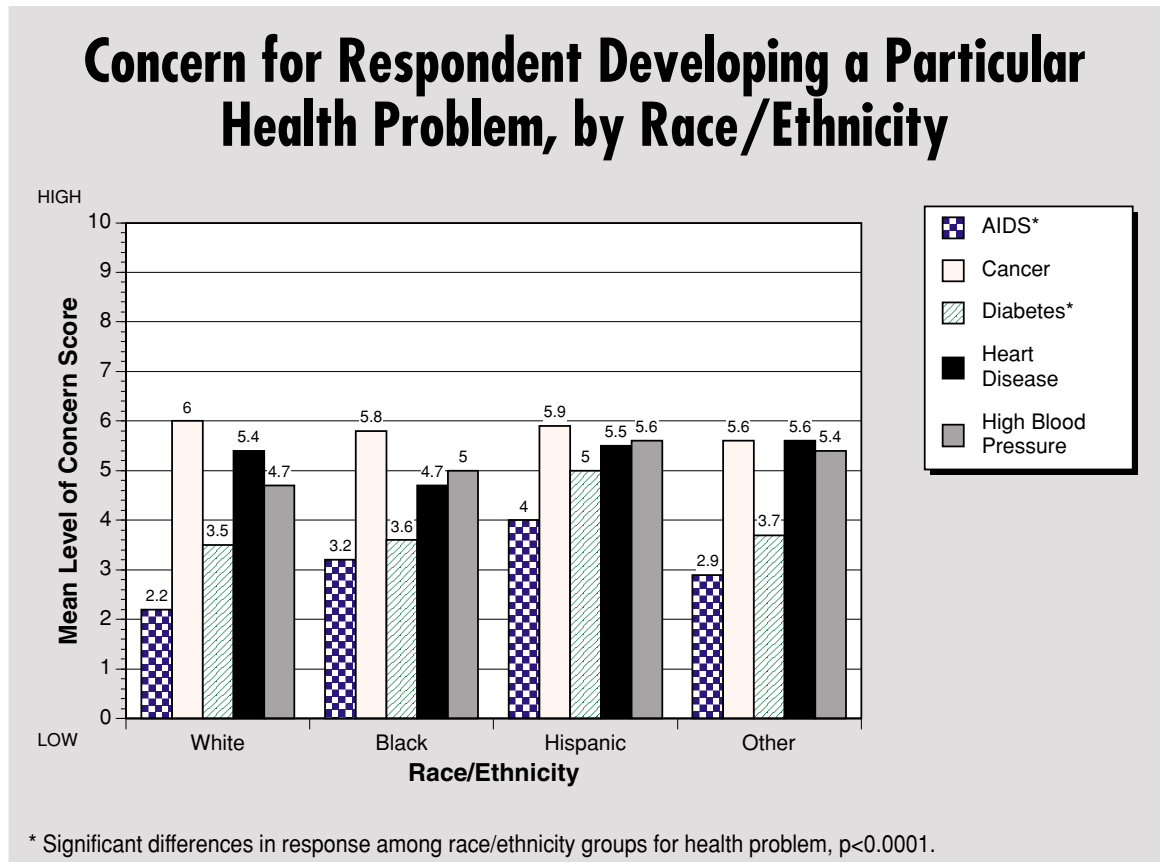
* Significant differences among age groups for health problem, $p < 0.0001$.

- ♥ The level of concern for someone close to respondent having heart disease was fairly consistent among all age groups. However, respondents in the 18-24 year and 50-59 year age groups had a slightly greater concern for heart disease compared to the other age groups.
- ♥ Respondents were most concerned about cancer among all age groups, compared to the other health problems listed.
- ♥ As age increased, concern for high blood pressure decreased slightly.
- ♥ The only health problem showing significant differences in levels of concern was AIDS; as age increased the concern for AIDS decreased.

Significance

- ♥ High levels of concern for heart disease and high blood pressure for close family and friends of young adults suggests that they may be receptive to programs and policies to protect their loved ones from heart disease

Figure 9



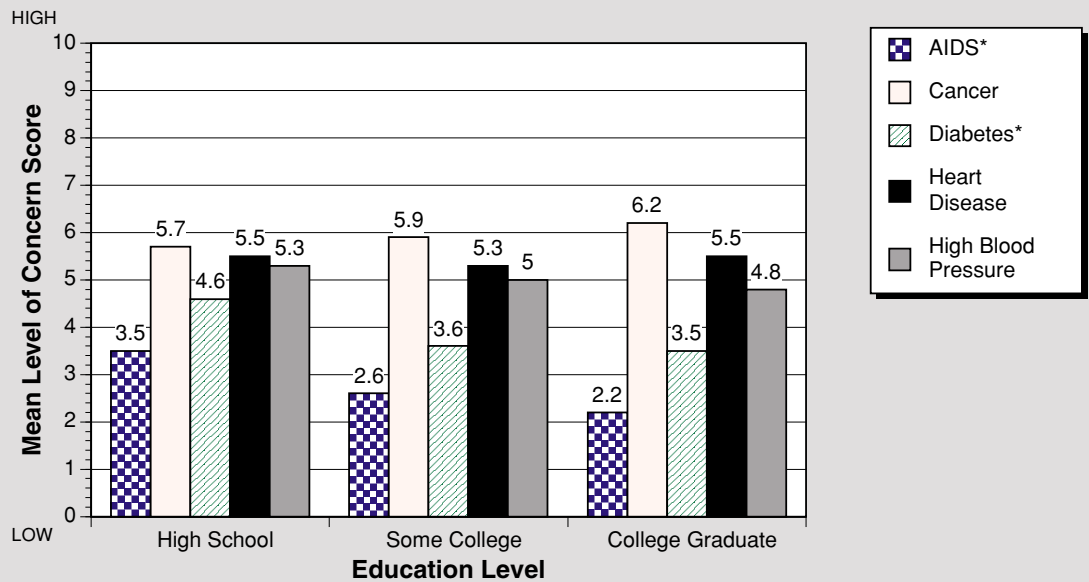
- ♥ There were no race/ethnicity differences in the reporting of concern for the respondent having heart disease or high blood pressure.
- ♥ In general, for each race/ethnicity group, respondents were most concerned about getting cancer. However, Hispanics and respondents from the “other” group were equally concerned about having heart disease and high blood pressure.
- ♥ Respondents for each race/ethnicity group were least concerned about getting AIDS.
- ♥ Overall, there were significant differences among race/ethnicity groups for AIDS and diabetes, with Hispanics having greater concern for AIDS and diabetes, compared to other race/ethnicity groups.

Significance

- ♥ Despite varying levels of knowledge that CVD is the leading cause of death, members of all race/ethnicity groups reported that heart disease is a condition they are concerned about for themselves.

Figure 10

Concern for Respondent Developing a Particular Health Problem, by Education Level



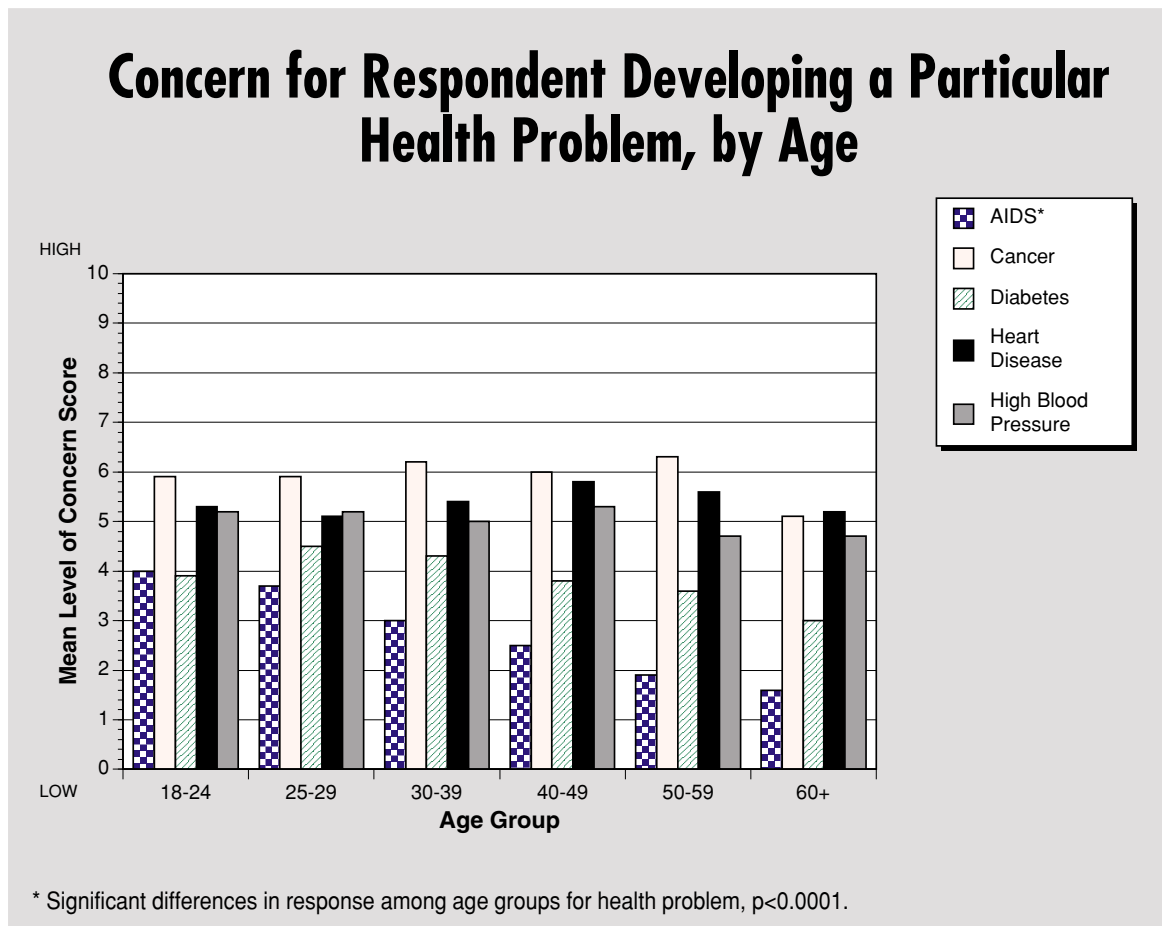
* Significant differences in response among education levels for health problem, $p < 0.0001$.

- ♥ When assessed by education level, heart disease and cancer were the health problems respondents were most concerned about getting themselves.
- ♥ There were no significant differences by education level for concern about getting heart disease.
- ♥ Overall, there were significant differences among education levels for concern of respondents themselves getting AIDS or diabetes. Respondents with a high school education or less were more likely to cite either diabetes or AIDS, compared to respondents with some college or more education.

Significance

- ♥ The least educated, who are also the most at risk for heart disease, are very concerned about the disease. This indicates educational programs and policies directed to this high-risk group may have a receptive audience.

Figure 11



- ♥ In general, respondents of all age groups were slightly more concerned about themselves getting cancer over the other conditions listed. However, those 60 years and older were more concerned about getting heart disease.
- ♥ The only health problem with significant differences in level of concern was AIDS; as age increased concern for AIDS decreased.

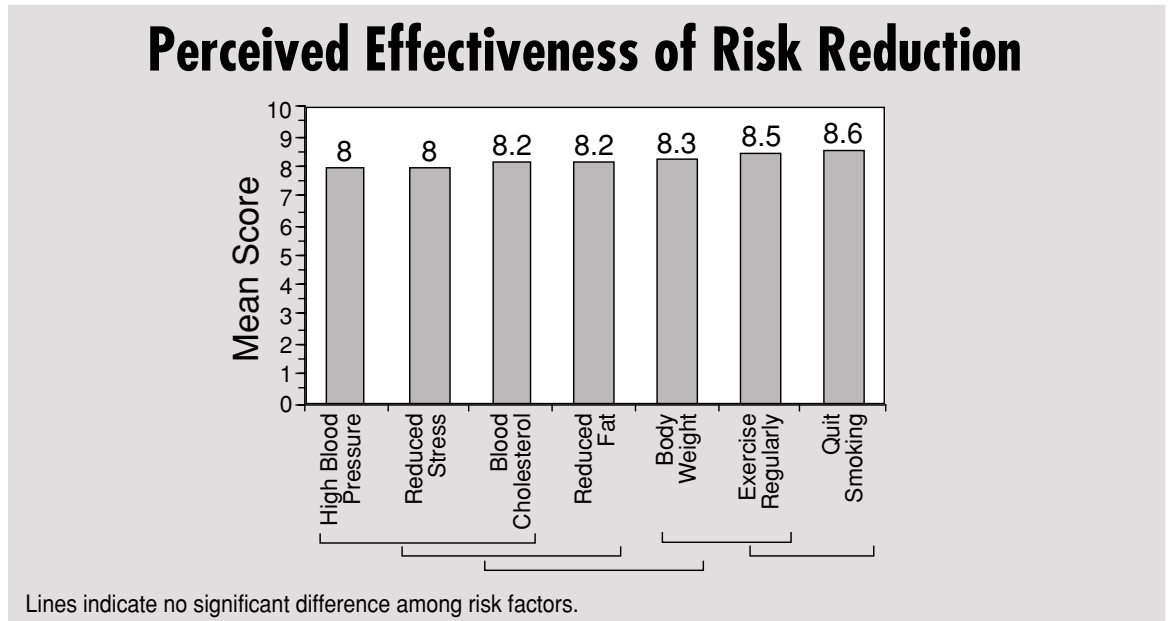
Significance

- ♥ High levels of concern for heart disease among young adults suggests that they may be receptive to programs and policies to protect them from heart disease.

Question 5:

“I am going to read some things that are believed to reduce a person’s risk of getting heart disease. On a one to ten scale, please tell me how effective you think each is in reducing the risk of getting heart disease.” (Figure 12)

Figure 12



- ♥ All CVD risk factors scored high levels of concern among respondents. However, there were significant differences among perceived effectiveness of CVD risk reduction.
- ♥ Quitting smoking rated the highest (8.6), followed by exercising regularly (8.5), in perceived effectiveness for reducing heart disease and stroke. Both risk factors had a mean score significantly greater than the other risk factors.
- ♥ Maintaining a healthy body weight (8.3) rated high in perceived effectiveness for reducing heart disease and stroke. It rated significantly higher than all the other risk factors listed, except quitting smoking and exercising regularly.
- ♥ The mean scores for reducing dietary fat (8.2) and blood cholesterol levels (8.2) were significantly greater than the perceived effectiveness of reducing either high blood pressure (8.0) or stress (8.0).
- ♥ There were no significant differences among race/ethnicity and education groups for any of the risk reduction variables.
- ♥ There were significant differences between gender groups for controlling elevated blood cholesterol and high blood pressure, reducing fat in the diet, maintaining a healthy body weight, and reducing stress. On average, women scored the risk reduction variables higher than men.

Significance

- ♥ Although Californians have high levels of confidence in the effectiveness of risk reduction measures, many still do not exercise regularly, eat a low-fat diet, control their blood pressure, or maintain a healthy weight. It appears that Californians are aware of ways to reduce their risk of CVD, but need help in making much needed changes.

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Suggested Readings

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Cardiovascular Disease Outreach, Resources and Epidemiology (CORE) program. *The California HeartLine* - a quarterly publication. Sacramento: University of California, San Francisco and California Department of Health Services, 1994-95.

Appendix

CALIFORNIA CARDIOVASCULAR DISEASE AWARENESS SURVEY

- | | | | |
|----|---|--------------------------|---|
| 1. | Thinking for a moment about the various types of diseases and health conditions facing Californians today, which one disease or health condition do you feel is the most important? (DO <u>NOT</u> READ LIST) (RECORD ONLY <u>ONE</u> RESPONSE) | AIDS/HIV | 1 |
| | | CANCER | 2 |
| | | DRUG/ALCOHOL ABUSE | 3 |
| | | HEART DISEASE | 4 |
| | | SMOKING | 5 |
| | | STROKE | 6 |
| | | OTHER | 7 |
| | | DON'T KNOW | 8 |
| | | | |
| 2. | What do you think is currently the leading cause of death in California? (DO <u>NOT</u> READ LIST) (RECORD ONLY <u>ONE</u> RESPONSE) | AIDS/HIV | 1 |
| | | CANCER | 2 |
| | | DRUG/ALCOHOL ABUSE | 3 |
| | | HEART DISEASE | 4 |
| | | SMOKING | 5 |
| | | STROKE | 6 |
| | | OTHER | 7 |
| | | DON'T KNOW | 8 |

3. I am going to read various types of health problems and diseases. For each please tell me how worried you are that someone close to you other than yourself might some day have this health problem or disease, using a scale of one to ten. The more worried you are, the higher the number you would give. The less worried you are, the lower the number you would give. Of course, you may choose any number between one and ten for your answer.

On a scale of 1 to 10 how worried are you that someone close to you will some day have **(ITEM)**? (ITEMS READ IN RANDOM ORDER) NOTE: IF RESPONDENT VOLUNTEERS THAT SOMEONE CLOSE TO THEM ALREADY HAS THIS AILMENT, ENTER CODE "11".

- | | | |
|----|-----------------------------|-------|
| a. | AIDS | _____ |
| b. | cancer | _____ |
| c. | heart disease | _____ |
| d. | diabetes (die-ah-be-teez) | _____ |
| e. | high blood pressure | _____ |
| f. | a drug or alcohol addiction | _____ |

4. Now, let's talk about your own personal health concerns. Using the same one to ten scale, please tell me how worried you are that you yourself will some day have this health problem or disease. (IF NECESSARY) Again, the more worried you personally are, the higher the number you would give. The less worried you are, the lower the number you would give.

On a scale of 1 to 10 how worried are you that you yourself will some day have **(ITEM)**? (ITEMS READ IN RANDOM ORDER) NOTE: IF RESPONDENT VOLUNTEERS THAT THEY THEMSELVES ALREADY HAVE THIS AILMENT, ENTER CODE "11".

- | | | |
|----|-----------------------------|-------|
| a. | AIDS | _____ |
| b. | cancer | _____ |
| c. | heart disease | _____ |
| d. | diabetes (die-ah-be-teez) | _____ |
| e. | high blood pressure | _____ |
| f. | a drug or alcohol addiction | _____ |

5. I am going to read some things that are believed to reduce a person's risk of getting heart disease. On a one to ten scale, please tell me how effective you think each is in reducing the risk of getting heart disease. (IF NECESSARY) The more effective you think it is, the higher the number you would give. The less effective you think it is, the lower the number you would give.

On a scale of 1 to 10 how effective do you think (ITEM) is in reducing the risk of getting heart disease?
(ITEMS READ IN RANDOM ORDER)

- | | | |
|----|---|-------|
| a. | reducing fat in the diet | _____ |
| b. | exercising regularly | _____ |
| c. | controlling high blood pressure | _____ |
| d. | quitting smoking | _____ |
| e. | controlling elevated blood cholesterol (co-lest-er-all) | _____ |
| f. | maintaining a healthy body weight | _____ |
| g. | reducing stress | _____ |